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1) Harosoy *Rps* isolines.

The development of *Rps* isolines of 'Harosoy' has been reported (Buzzell et al., 1984). The *Rps1-a* and *Rps5* isolines were available as 'Harosoy 63' and L62-904, respectively. Isolines have been completed for *Rps1-b*, *Rps1-k*, *Rps3*, *Rps4*, and *Rps6*. *Rps1-c* is at BC_6 and *Rps3-b* is at BC_1.

The completed isolines have been coded by a two-digit number (Table 1); the first digit signifies the locus and the second digit designates the allele with 1 representing *rps*. Harosoy is HARO (1-6)1, i.e., recessive at locus 1 to 6 and Harosoy 63 is HARO 12, i.e., *Rps1-a*. The gene *Rps?* (Rennie and Buzzell, 1986) which confers resistance to races 12, 16, 18 and 19 is indicated by XX, i.e., uncharacterized for locus and allele.

The *Rps* isolines were evaluated for reaction to available races (20 and 23 not available) and the results (Table 1) compared with published (Buzzell et al., 1984; Keeling, 1982, 1984; Laviolette and Athow, 1983; Layton et al., 1986; Moots et al., 1983; Ploper et al., 1985) and unpublished reactions. Since Harosoy carries *Rps?*, reactions for races 12, 16, 18 and 19 are not included in the table. Our susceptible reaction for race 14 and *Rps1-a* agrees with that of Moots et al. (1983) and Athow (personal communication, 1984) but not with the resistant reaction reported by Keeling (1982) and Laviolette and Athow (1983). Athow (personal communication, 1984) pointed out that with a susceptible reaction for race 14 and *Rps1-a*, races 4 and 14 are the same. These two races have the same reactions in Table 1.

The *rps?* allele is being backcrossed into Harosoy so that single gene *Rps* isolines can be developed. However, this may have already been accomplished with *Rps1-b*. Five BC_6F_2 plants (from the same F_1 plant) selected as being *Rps1-b Rps1-b* are resistant to race 18 and susceptible to races 12, 16 and 19. *Rps1-b* confers resistance to race 18 and susceptibility to races 12, 16 and 19; thus, it appears that HARO 13 is *rps? rps?*. This seems an unusual chance occurrence; however, *Rps?* should be at a different locus than *Rps1* (Rennie and Buzzell, 1986). The two loci may be linked; however, we did obtain an *Rps1-b Rps?* BC_6F_2 line from a different F_1 plant than the one which resulted in the *Rps1-b rps?* combination.

The backcrossing of an *Rps* gene from PI 103091 into Harosoy has been completed but the locus has not been characterized. The line gave a resistant reaction to races 6 and 7, in contrast to PI 103091, in which a susceptible reaction for race 6 and a resistant reaction for race 7 were reported by Laviolette and Athow (1983). The cultivar 'UCO 112' gives a susceptible reaction to race 6 and a resistant reaction to race 7; thus, it could be used as a differential to distinguish these two races.

Seed of the Harosoy *Rps* isolines will be available from the Harrow Research Station after seed increase in 1987.

Table 1. Reaction of *Rps* lines of soybean to races of *Phytophthora megasperma* f. sp. *glycinea*

Line(s) tested	Gene	Source of gene	No.*	Race																	
				1	2	3	4	5	6	7	8	9	10	11	13	14	15	17	21	22	24	25
HARO (1-6)1XX	*Rps?*	Harosoy	-	S[+]	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
HARO 12XX	*Rps1-a*	Blackhawk	8	R	R	S	S	S	S	S	S	S	R	R	R	S	R	R	S	S	R	S
HARO 13	*Rps1-b*	PI 84637	7	R	S	R	R	R	R	R	R	R	S	S	R	R	R	S	R	R	S	S
OX682[‡]	*Rps1-c*	PI 54615-1	2	R	R	R	S	S	R	R	R	R	R	R	R	S	R	R	R	S	R	S
HARO 15XX	*Rps1-k*	Kingwa	7	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	S
HARO 32XX	*Rps3*	PI 171442	7	R	R	R	R	R	S	S	R	R	S	R	R	R	S	S	S	S	S	R
PRX146-36/47**	*Rps3-b*	PI 172901	1	R	R	R	R	R	R	R	R	R	R	R	R	R	R	S	R	R	R	R
HARO 42XX	*Rps4*	PI 86050	7	R	R	R	R	S	S	S	S	S	R	S	R	R	R	S	R	S	S	R
HARO 52XX	*Rps5*	PI 91160	8	R	R	R	R	R	S	S	R	R	S	R	R	R	S	S	S	S	S	R
HARO 62XX	*Rps6*	Altona	7	R	R	R	R	S	S	S	S	S	R	S	S	R	R	S	R	S	S	R

*No. of crosses with Harosoy.

**Lines from K. L. Athow.

[+]S = Susceptible; R = Resistant.

[‡]An interim line.

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